



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/743,970

12/23/2003

Gino Tanghe

920522-95345

9404

23644 7590 04/18/2007
BARNES & THORNBURG LLP
P.O. BOX 2786
CHICAGO, IL 60690-2786

EXAMINER

HOLTON, STEVEN E

ART UNIT

PAPER NUMBER

2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

04/18/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/743,970	Applicant(s) TANGHE ET AL.	
	Examiner Steven E. Holton	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 22 is objected to because of the following informalities:

The preamble of claim 22 states "A machine readable data storage device storing the computer program...". The Examiner notes that the standard preamble for this type of claim would be "A computer readable data storage device storing the (a) computer program...".

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 21-23 are rejected under 35 USC 101.

The preamble of claim 21 recites "A computer program product for executing the method of claim 1..." Under the current working guidelines, a computer program, a computer program product, or a transmission wave carrying a computer program are considered non-statutory material. Therefore, claim 21 is rejected and claims 22 and 23 inherit the rejection from claim 21. The Examiner notes that current acceptable language for a claim of this type is: "A computer readable medium storing a computer program comprising the steps of..." or some similar variation including a computer readable storage device for storing a computer program. The preamble of claim 22

Art Unit: 2629

would be statutory, after considering the above objection, but claim 21 is non-statutory under the current guidelines.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 11, 15, and 18 recite the limitation "second subdivision target value", "further subdivision target value" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim. The Examiner notes that the second subdivisions and further subdivisions are not recited in claim 1.
4. Claims 12-14, 16, 19 and 20 are either dependent on one of claims 11, 15, or 18, or similarly recite a "second subdivision target value" or "further subdivision target value". All of these claims are similarly rejected under 35 USC 112, second paragraph.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 4, 7, 8, 17, 22, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Someya et al. (USPN: 5396257), hereinafter Someya.

Regarding claims 1 and 24, these claims are a method of operation and an associated display device. Someya discloses a method for controlling a tiled emissive display. The display has subdivisions where each subdivision is an emissive display device (Fig. 1, elements 1a-1d). Further, Someya discloses first setting each emissive device to optimize the display with respect to a target value and then optimizing across all of the emissive displays to match the display of all the units within the subdivision (col. 4, lines 37-59).

Regarding claim 4, Someya discloses the first subdivision is an emissive display (Fig. 1, elements 1a-1d).

Regarding claims 7 and 8, Someya discloses causing the emissive displays to be shifted to a uniform level (col. 5, lines 18-37). Uniform would embody the 10%, 5% and .8% levels of matching the displays to the same level.

Regarding claim 17, Someya discloses adjusting a control parameter of the display device (col. 4, lines 37-59).

Art Unit: 2629

Regarding claims 22, Someya discloses using a computer to control and help perform the calibration method (col. 4, lines 58-59).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 3, 5, 6, 9-16, 18, 19, 20, and 25 are rejected under 35 U.S.C. 103(a) as being obvious over Someya in view of Tanghe et al. (USPN: 2004/0233125), hereinafter Tanghe.

The applied reference has a common inventor and assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer

Art Unit: 2629

in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Regarding claims 2 and 25, which are a method of operation and associated device, as discussed above Someya discloses all of the limitations except, "said plurality of first subdivisions being grouped into a plurality of second subdivisions, wherein said setting the first subdivisions is performed by for each of the second subdivisions, setting the first subdivision so that each of said second subdivision is optimized with respect to a second subdivision target value for that second subdivision, and thereafter for the emissive display, setting the second subdivisions so that the emissive display is optimized with respect to an emissive display target value for said emissive display." Someya merely discloses optimizing the displays with each other to provide an optimized full display with 4 individual panel elements.

Tanghe discloses a display device with individual display panels (Fig. 1, elements 130a-130j) each combined and held within a larger tile subdivision (Fig. 1, element 140a), and then multiple larger tiles held together in an even larger grouping (Fig. 1, element 110). Further, Tanghe discloses providing calibration and adjusting driving parameters for each individual display device (paragraph 138) and also making adjustments across an entire tile grouping of displays (paragraph 19). The individual display would correspond to a first subdivision while a tile would correspond to a second subdivision.

At the time of invention it would have been obvious to one skilled in the art to modify the system of Someya using the teachings of Tanghe to produce a device as described in claim 2. By providing tiles of display devices and forming a larger display device of multiple tiles the matching methods described by both Tanghe and Someya could be applied to multiple levels across the display device. The correction would take place within a single display, then within a tile grouping of displays, and finally across an entire display as performed by Someya. The motivation for utilizing the tile grouping method of Tanghe would be to improve processing power and increase speed of processing and transmission of data to the entire display (Tanghe, paragraph 16). Thus, it would have been obvious to one skilled in the art that a tiling arrangement of multiple displays as disclosed by Tanghe could be used with the color matching methods of Someya to produce a device as specified in claims 2 and 24.

Regarding claims 3 and 6, although neither Tanghe nor Someya disclose multiple levels of subdivisions within a tiled display, it would have been obvious to one skilled in the art that multiple subdivisions of display units could be included within a single display depending on the size and complexity of the display. The exact number of subdivisions would be a matter of design choice based on the display system. Whether using a smaller system with only one level of subdivisions as shown by Someya or multiple levels of subdivisions as shown by Tanghe, or adding further subdivision levels for a display would be a matter of design choice for one skilled in the art as a logical extension of grouping methods shown by Someya and Tanghe. The

Art Unit: 2629

name of a larger subdivision (a grouping of multiple tiles) would correspond to a supertile as named in claim 6.

Regarding claim 5, Tanghe discloses the first subdivision being an emissive display (Fig. 1, element 130a) and the second subdivision being a display tile (Fig. 1, elements 140a).

Regarding claims 9 and 10, Someya discloses causing the emissive displays to be shifted to a uniform level (col. 5, lines 18-37). Uniform would embody the 10%, 5% and .8% levels of matching the displays to the same level.

Regarding claims 11-16, Tanghe discloses measuring ambient illumination, humidity and temperature as environmental parameters that can be considered when making corrections to the display device (paragraph 4). Tanghe also discloses measuring the age (paragraph 33).

Regarding claim 18, Someya discloses using the computer device to perform all corrections for each tile and across all of the tiles. The use of an algorithm that can be used for both types of calculations would be obvious to one skilled in the art as useful programming and would be a matter of design choice based on the speed of algorithms available vs. the amount of computer processing power and memory available for the entire system.

Regarding claim 19, Someya discloses performing the calibrations periodically (col. 5, lines 38-43). Tanghe also discloses performing corrections after a period of time (Fig. 6, element 625 and Fig. 7, element 725).

Art Unit: 2629

Regarding claim 20, Someya discloses matching the brightness of the display (col. 4, lines 44-59) and the color of the display (col. 6, lines 1-8).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven E. Holton whose telephone number is (571) 272-7903. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Steven E. Holton
Division 2629
February 15, 2007

AMR A. AWAD
SUPERVISORY PATENT EXAMINER
